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"GENTLEMEN WE ARE OUT OF MONEY…NOW WE HAVE TO THINK"[1]

Prioritization of Objectives in a Resource Constrained Environment

by

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Biography

COL Brian Sperling is a US Army Operations Research and Systems Analyst and Aviator assigned to the Air War College, Air University, Maxwell AFB, AL. He graduated from the United States Military Academy in 1990 with a Bachelor of Arts degree in Mechanical Engineering Systems. He earned a Master of Science degree in Operations Analysis from the Air Force Institute of Technology in 1999 and in 2005 he received his Doctorate of Philosophy in Industrial and Systems Engineering from the Georgia Institute of Technology. He was awarded his Senior Aviator wings in 1997 and is qualified in the UH-1, AH-1 (Cobra), and AH-64 (Apache) Helicopters. He has served in operational and analytical positions at various levels in the Army and as a Congressional Military Liaison in 2010.

Abstract

This paper introduces a simple and effective analytical method for Senior Leaders and their staff to communicate their priorities more clearly through the Chain of Command and across organizations; the Decision Objective Prioritization (DOP) Matrix method. When leadership is prioritizing objectives there are two independent variables that should be considered: the importance of the objective and its potential for improvement**.** This set of variables produces the DOP Matrix. Priorities determined through the use of this matrix are far more beneficial to the organization and produce more useful insights than any single dimension prioritization method. By discussing a current and relevant use of this process in the U.S. Army Pacific, a strong argument is presented for the integration of the DOP Matrix into decision processes throughout all levels of DoD as the standard method of establishing and communicating the leadership's priorities thereby clarifying their intent.

This paper postulates that using the DOP Matrix method to quantitatively prioritize objectives will improve the quality of strategic decisions and allocation of resources throughout DoD. More so than in times of abundance, during times of limited resources, decisions are more highly scrutinized and must be publically defendable; the process described in this research provides the organization a logical, traceable manner to present and justify their decisions. The method is expandable or collapsible based on size of the problem, time required to make the decision and resources available. Finally, the proposed method combines both the subjective and objective approaches to decision making, incorporating the judgment and experience of leadership with proven techniques to ensure consistency and handle the complexities of multi-dimensional decisions.

Introduction

On Tuesday, September 20, 2011 the Secretary of Defense Leon E. Panetta and Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, addressed the media from the Pentagon Press Briefing Room. In response to proposed Department of Defense (DoD) budget cuts Mr. Panetta asserts that, while attempting to maintain the best military in the world,

> *"we must take a balanced approach, and look at all areas of the budget for potential savings -- efficiencies that trim duplication and bureaucratic overhead, to improving competition, contracting procedures, management and the operations in investment programs, to tightening and reforming personnel costs and areas, to developing what will be a smaller, more agile and more flexible force for the future… Achieving these savings will be very hard. This is not going to be an easy process. These involve tough decisions and tough trade-offs."*[2]

The DoD is not unfamiliar with the challenge of budget cuts, in fact, budget increases and decreases are generally cyclical over time. For instance, total spending on the Pentagon during the years 1992-2001 was 24% lower than spending during 1982-1991.[3] However, the effects of this round of cuts could be significantly more far reaching than in the past. Aside from the fact that U.S. troops are deployed to over 150 countries worldwide, it is exceptional that the proposition of extreme budget cuts occurs while our country is still engaged in major combat operations in Afghanistan. Additionally, the uncertainty in the range of the depth of cuts adds confusion to the issue and poses specific problems for balancing short term, mid-range, and long-range DoD plans and initiatives. Regardless of the difficulty of imposing cuts throughout the Department, DoD will comply and develop a plan of execution.

Complex, multi-dimensional decision opportunities frequently present themselves at various levels within DoD. This particular example above is current and will have broad consequences, yet, its form is not uncommon. DoD leadership has been presented with an

opportunity to decide where to allocate limited resources while still meeting their various, pre-determined, competing objectives. The question is not whether to make the decisions but how to best allocate the resources towards accomplishment of the most valued objectives. Any course of action will contain risk, the leadership's job is to associate that risk with their lowest priorities and therefore, have the least likely negative impact on their desired end-state. Frequently, due to the complexity of the situation, leaders hesitate or refuse to make those tough trade-offs and make **"**peanut butter" or "salami slice" cuts.[4] This is an ineffective method to allocate resources and will most likely have detrimental second and third order effects across the organization. One particular reason is that this method cuts the most important programs in the same percentage as the least important programs. Mr. Panetta realizes that he *must* assess tradeoffs and is prepared to make those tough decisions; the goals of competing DoD policies and strategies are not compatible with each other. Systems Analysis can make this series of decisions easier for Mr. Panetta and anyone else faced with similar decision opportunities.

Systems Analysis, originally created to help the U.S. government make wise economic choices in using scarce resources, was introduced to the Pentagon in the early 1960s under Secretary of Defense McNamara and has a "reputation for peering through a fog of confusion and obfuscation to ask the right questions, which is the first step to getting the right answers".[5] While Operations Research has been applied to a wide range of domains within the DoD for over half of a century[6], there are key elements of multi-objective decision analysis that would increase the quality of DoD's decisions that have not been incorporated into their decision processes. The Decision Objective Prioritization (DOP) Matrix method of prioritizing objectives presented in this paper include these elements and should be integrated into decision processes throughout all levels of DoD as the standard method of establishing and communicating

leadership's priorities thereby clarifying their intent. The DOP Matrix was developed from the Swing Weight Matrix method in Decision Analysis. Using the definition of a decision as "an irrevocable allocation of resources"[7], this paper postulates that using the DOP Matrix method to quantitatively prioritize and weight leadership's priorities will improve the quality of strategic decisions and allocation of resources throughout DoD.

Background: Decision Analysis Methods

Making decisions is an important part of all managers' jobs, making tough decisions resulting in hard-hitting tradeoffs with far-reaching consequences is a privilege reserved for strategic leaders and is common to the senior leadership in the DoD. Normally, at the senior leader level, decisions involve multiple competing objectives; classified as multi-objective decisions. Due to the inherent complexity and ill-structured nature of multi-objective decisions it is risky to make decisions based solely on a leader's experience and acquired heuristics. Various quantitative methods exist within decision analysis to facilitate decision processes, but during periods of abundant resources, such as those the DoD has enjoyed over much of the last decade, organizations tend to revert to less structured methods of analysis for allocation of resources. The method presented in this paper helps structure decisions for leadership, who, in turn, will be better equipped to make higher quality decisions.

This method is based on decision makers' values and transcends various domains: location analysis, resource analysis, manufacturing, outsourcing, marketing, supplier selection, energy, education, and risk analysis.[8] Decision analysis may assist the decision maker in "one-time" decision opportunities or result in a process to guide multiple decisions over time. For instance, decision analysis was used in the creation of the military's Planning, Programming, and Budgeting System (PPBS), in Nuclear force planning, NATO/Warsaw Pact conventional military

balance during the Cold War, and the defense of the Persian Gulf.[9] What makes these decisions so hard? Each one of the examples above, and daily problems faced by the DoD senior leadership have four qualities in common. First, each of these decisions is complex, with numerous possible interconnections and solutions. Second, they each possess a level of uncertainty; uncertainty about future threats. Third, they deal with multiple and competing objectives, if they didn't, they would have been solved at a lower level of leadership. Lastly, a person's perspective will influence their perception of a successful outcome.[10] Much of the difficulty presented by these four qualities of hard decisions can be reduced with clear guidance from leadership that indicates their priorities over time.

Once a decision is made resources are committed; this point marks the time when the decision maker has determined that the value of commitment to a course of action outweighs the value of waiting for new information. If the leadership is confident that they have made a high quality decision they will avoid second guessing and re-analyzing the decision. The objective for the leadership should be to arrive at that decision point with confidence in the decision and the process that was followed that led them to their decision. "(This is) what separates low quality decisions from high quality decisions, and mediocre decision makers from good and great ones".[11] Even though high quality decisions do not guarantee the desired outcomes, high quality decisions are inherently grounded in and supported by a good decision process. Taking the time, energy, and thoughtfulness to establish consistent priorities, prior to the decision opportunity, will increase the quality of the decision. This provides clearly defined and understood intent and weights that reflect the leadership's priorities and expectations with respect to the set of objectives. Decisions become traceable, repeatable, logical, simple and quantitative; all characteristics of a high quality decision process.[12]

Understandably, decision makers are sometimes hesitant to quantify their qualitative assessment of decision relevant information for fear of relinquishing control of the decision making process; this is not the intent of decision analysis.

> *"The basic presumption of decision analysis is not at all to replace the decision maker's intuition, to relieve him or her of the obligations in facing the problem, or to be, worst of all, a competitor to the decision maker's personal style of analysis, but to complement, augment, and generally work alongside the decision maker in exemplifying the nature of the problem. Ultimately, it is of most value if the decision maker has actually learned something about the problem and his or her own decision-making attitude through the exercise."* [13]

Academics claim that personal judgments about uncertainty and values are important inputs for decision analysis;[14] I suggest that they are essential to establish the foundation for, and are the basis of useful decision models. Without leadership preferences and judgments the analyst is left with a worthless shell of a model.

"Gentlemen, we have run out of money…Now we have to think"[15]

Compliant with the Secretary of Defense's guidance, the Vice Chief of Staff of the Army (VCSA), General Peter Chiarelli, tasked Army leadership to find efficiencies to support our Soldiers and operating forces. He realized that all resource decisions would be highly scrutinized and open for review from governmental organizations.[16] With this in mind, it is critical to ensure that the available resources are directed towards the most valuable programs, efforts, and initiatives, henceforth referred to as alternatives. Therefore, the most valuable alternatives must be identified and stratified. The common link through which alternatives can be evaluated is the set of DoD's Strategic Objectives.

Joint doctrine establishes the importance of prioritized Strategic Objectives; they are the foundation upon which a strategic plan is built. Alternatives within a plan should link to one or more objective, otherwise there is no requirement for that alternative and therefore no justification for its consumption of resources. Joint Operation Planning guidance outlines that a "Combatant Commander's (CCMDs) strategy and resultant campaign plan should be designed to achieve prioritized strategic end states and serve as the integrating framework that informs and synchronizes all subordinate and supporting planning and operations".[17] The preponderance of guidance for CCMDs concerning the country's defense interests, objectives, and priorities comes from the National Security Strategy (NSS), the National Defense Strategy (NDS), National Military Strategy (NMS), Guidance for the Development of the Force (GDF), Guidance for the Employment of the Force (GEF), and finally the Quadrennial Defense Review (QDR) Report.[18] During the May, 2010 House Armed Services Committee debates on the National Defense Authorization Act, Congress expressed disappointment in the trend of QDR reporting. Congressional leaders expressed concern that DoD was not prioritizing their needs nor were they linking their funding requests to operational needs.[19] This is one example of the need for analysis and communication of priorities; currently there is no standard method by which leaders can accomplish this. Consequently, when DoD indicates priorities it is merely ordinal at best; there is rarely a quantifiable weight associated with the priorities. Therefore the difference in importance between any two of objectives is assumed to be the same as the difference in importance between any other two objectives. The need for DoD to quantitatively prioritize objectives is well documented but, until now, no standard prioritization method has been introduced. The Decision Analysis techniques presented in this paper will help prioritize and stratify leadership's objectives. This method transforms qualitative values of a leader to a

quantitative assessment of priority and can standardize the process by which DoD and other governmental organizations set priorities. These techniques can help leaders at all levels develop the ability to create a decision process in their organization that is common and repeatable and generates insights not previously available; clearly an improvement to a process which normally relies on intuitive, individual and anecdotal evidence.[20]

Decision Objective Prioritization Matrix Method

There are various weighting methods available; direct assessment, Simple Multi-attribute Rating Technique, Simple Multi-attribute Rating Technique using Swings, Analytical Hierarchy Process, and others. The Swing Weight Matrix Method is extremely flexible and simple and is able to be tailored to limitless domains and problem sets. The Swing Weight Matrix Method was designed to properly assess weights by explicitly defining, and addressing, both importance and variation.[21] This paper proposes that when prioritizing objectives the two independent variables that should be used are "importance" and "potential for improvement". This set of variables produces the DOP Matrix. Developing this matrix and completing the process is accomplished through four distinct steps:

- Step 1. Define the importance and potential for improvement dimensions of the matrix.
- Step 2. Place the Decision Objectives in the matrix.
- Step 3. Assess the Decision Objective swing weights.
- Step 4. Calculate the normalized weights.[22]

These steps are discussed below.

S*tep 1*: *Define the importance and potential for improvement dimensions of the matrix*. The importance is an intuitive judgment. The range of the potential improvement in the objective is more of a factual judgment. This is the foundational step of any weighting or prioritization method; the definitions of importance and potential for improvement are different in each

application. It is here where the leadership defines the variables by which all end-states, objectives, henceforth decision objectives, will be compared. The first variable, the columns of the matrix, generally represents *importance*; depending on the decision objectives, there are various representations by which *importance* can be gauged. For instance, during the Army Base Realignment and Closure (BRAC) Military Value Analysis in 2005, importance was represented by the ability of an attribute to change. The greater the ability for an attribute to change, the lower that attribute was on the importance scale; while its variability was measured based on how distinct different installations were with respect to the attribute.[23] In a similar analysis, the United States Army Pacific Command (USARPAC) used this method to prioritize their Theater Campaign Plan (TCP) Strategic Objectives. In this case, the leadership rated the importance of each objective in accomplishing the TCPs overall end-state; critical, significant, marginal. "Potential for improvement" was stratified as great, significant, marginal (see Figure 1), reflecting to what degree gains could be realistically achieved in the objective. There are various reasons that an objective may fall into an individual cell, by addressing each objective in this manner critical insights can be gained. For instance, if the stakeholders agree that "potential for improvement" is marginal for a specific objective then they should identify why the potential is marginal. A marginal assessment of potential may be due to the fact that the objective is already being achieved, or because there are policies that restrict improvement in that specific objective; these are two drastically different reasons. Consequently, objectives of critical importance that had the most potential for improvement received the highest weight and the objectives of marginal importance with the lowest potential for improvement received the lowest weight. Take, for instance, the hypothetical objective of establishing a professional Non-Commissioned Officer (NCO) education system in two countries: X and Y. Country X may have been working

with us for years and have a marginally mature NCO program with little potential for improvement while Country Y has no NCO education system with high potential for improvement. Although the importance of the objective is the same Country Y has much greater potential for improvement and will have a higher weight.

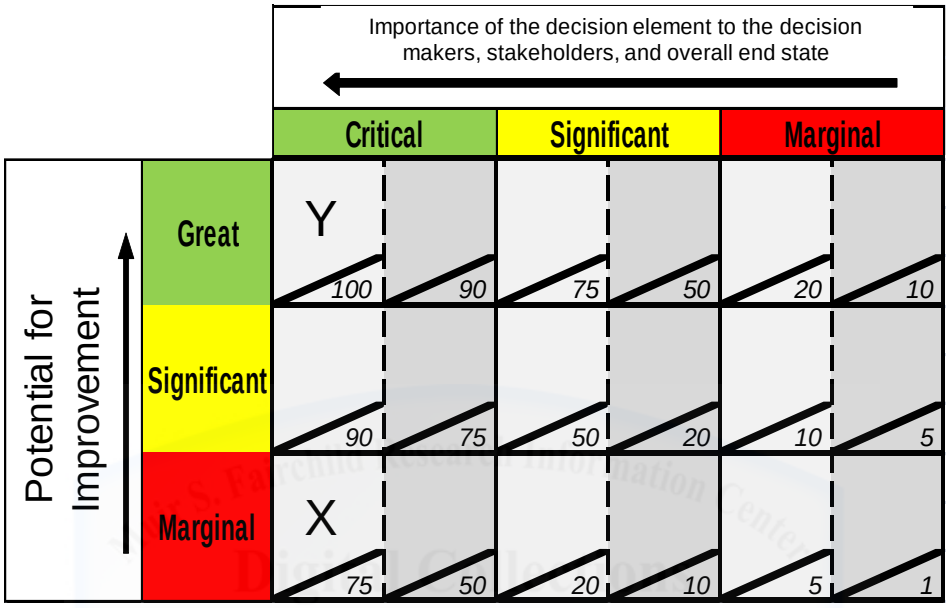

Figure 1: USARPAC Swing Weight Matrix

Step 2: Place the Decision Objectives in the matrix. Once the leadership has defined the scales by which importance and potential for improvement will be measured, the decision objectives should be placed in the cell that represents their importance and potential. Although it is common practice to use three levels of each variable, resulting in nine cells of stratification, it is fully acceptable to further divide the cells for additional fidelity. For instance, in the USARPAC example each importance category is further broken down to a low and high rating; an objectives importance can be either low or high within the marginal, significant, or critical cells.

Given the nature of multi-objective decisions, an objective may be very important to the overall end-state, but have little potential for improvement within the decision scope. In the USARPAC example this decision objective, X, is placed in the lower left cell of the swing weight matrix; whereas, a highly important objective with great potential for improvement, Y, is placed in the upper left cell. These ratings by the leadership are subjective, whenever possible levels of importance and potential should be defined to minimize the variations in their subjectivity. Placing decision objectives in the DOP matrix is not only critical for prioritization of the decision objectives, but the process generates valuable discussion of trade-offs; this is also a great opportunity to involve additional stakeholders to gain buy-in. During the BRAC analysis in 2005, the team conducted this analysis with the Army subject matter experts and key stakeholders. In addition, they used the matrix to explain the weighting process to auditors and senior decision makers.[24] As well, during the USARPAC TCP analysis, discussion surrounding placement of decision objectives in this matrix led to great insights. Previously, TCP Strategic Objectives were rank ordered to indicate the leadership's priorities. Using the DOP Matrix method and accounting for differences in the *potential for improvement* across Strategic Objectives highlighted potential trade-offs that were not previously available to the leadership. During this process it is beneficial to have a recorder to capture the reasoning behind the leadership's cell placement and commentary on trade-offs. Documentation of the leadership's thought process aids in justification and traceability of the decision and can be of great use later in the process, or during the next decision opportunity.

Step 3: A*ssess the Decision Objective swing weights*. Once all of the decision objectives have been placed in the DOP matrix, each cell must be assigned a numerical value; a larger number indicates greater value for the decision maker. The assignment of weights should not be

in view during steps one and two; this will help avoid biases during the placement step. There are a variety of methods that can be used to distribute the weights across the matrix, such as the value increment approach to assessing weights, or other swing weighting techniques. These weights have great impact on the prioritized output.

In order to show a quantifiable difference in value between decision objectives, weights must be distributed across the matrix. There are a few guidelines by which the matrix weights should be distributed. Raw weights should be highest in the upper left cell and lowest in the lower right cell. Diagonal cells are not necessarily equal but they can be; inequalities in the diagonals would indicate a decision maker's preference for an increase/decrease in importance over an increase/decrease in potential for improvement or vice versa. For consistency, any cell that is directly below, or below and to the right of a given cell, should be weighted lower than the given cell. The range of raw weights will increase or decrease the stratification of decision objectives. USARPAC analysts used a range of 1-100; choosing a wider range, i.e., 1-1000, will provide an additional order of magnitude. In Figure 1, the raw weights are distributed from 100 in the upper left cell (Importance: *Critical*, Potential for Improvement: *High*) to 1 in the lower right cell (Importance: *Marginal*, Potential for Improvement: *Low*).

Parnell and Trainor warn staff and analysts not to give the leadership a false sense of precision. This method is inherently subjective in nature; therefore resultant weights and analysis should avoid precise numbers. For example, round numbers up or down and avoid the use of decimals. The BRAC analysis rounded its weights to the nearest increment of 5; instead of a weight of 74, they rounded to 75.[25]

Step 4: *Calculate the normalized weights*. Once all of the decision objectives have been placed in the matrix and assigned a raw weight the weights must be normalized; making the sum

of all weights equal to 1.0. The normalized weight is the quantitative representation of the qualitative value of a given decision objective. The normalized weights, w_i, used to establish a quantitatively prioritized list of the decision objectives are found with the following equation:

$$w_i = \frac{f_i}{\sum_{i=1}^{n} f_i}, \quad \text{Equation 1}$$

Where f_i is the raw matrix swing weight corresponding to decision objective *i*, *i* = 1 to n for the number of decision objectives, and w_i are the final normalized swing weights used for prioritization. Applying this equation to each decision objective will result in a "1 to n" list of the highest weighted decision objective to the lowest.

Illustrative Applications

In 2009, USARPAC was challenged with a decision opportunity concerning their Security Cooperation Program (SCP). Faced with a decreased budget within the five year scope of their TCP, leadership wanted to maximize the benefit of their engagements with other countries within the Pacific Area of Responsibility (AOR). Through the detailed development of their subordinate objectives, campaign planners and their Security Cooperation Division ensured that SCP activities were linked to Theater Campaign Plan (TCP) Strategic Objectives. In order to maximize benefits, USARPAC set out to streamline their ability to plan, assess, direct/re-direct, and monitor the SCP. Progress would be measured by the gap between projected value and actual value added to the TCP by SCP activities in the AOR. Prioritization of the Decision Objectives was a critical step to this end.

USARPAC's staff followed the process described above to prioritize its strategic objectives; this analysis resulted in a distribution of weights similar to those depicted in Figure 2.

Additionally, due to the discussions that were generated concerning potential for improvement, some of the objectives were changed, combined, or discarded. This was completed for all Strategic Objectives and their subordinate objectives. The same process was also used to quantify a country's contribution to subordinate objectives. For instance, the stakeholders quantified the impact and importance of each country with respect to a given objective; this resulted in valuable resource investment implications. Resultant weights were approved at the appropriate level. For example, while the weighting of subordinate objectives was approved by a Council of Colonels, placement of Strategic Objectives in the swing weight matrix was finalized and approved by the Commanding General. These weights represented a quantitative portion of the Commander's Guidance, and were the foundation for allocation of resources, cost benefit analysis, and country engagement prioritization.

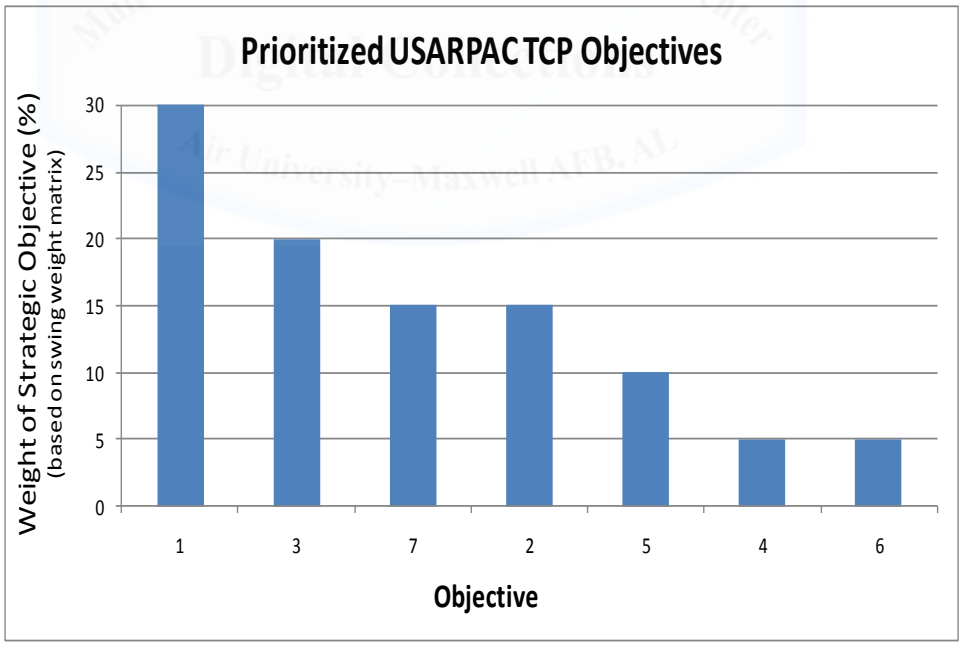

Figure 2: Prioritized USARPAC TCP Objectives

Based on these weights and the established linkages between SCP activities and the Strategic Objectives, the thirty six countries in the USARPAC AOR could be rank ordered in

terms of the value of engagements with that country provided to USARPAC's overall Strategic Objectives. Figure 3 is an unclassified representation of the top twelve countries. The red bar represents the percentage of value contributed to the overall TCP; this was predicated on the prioritized objectives from the commander.

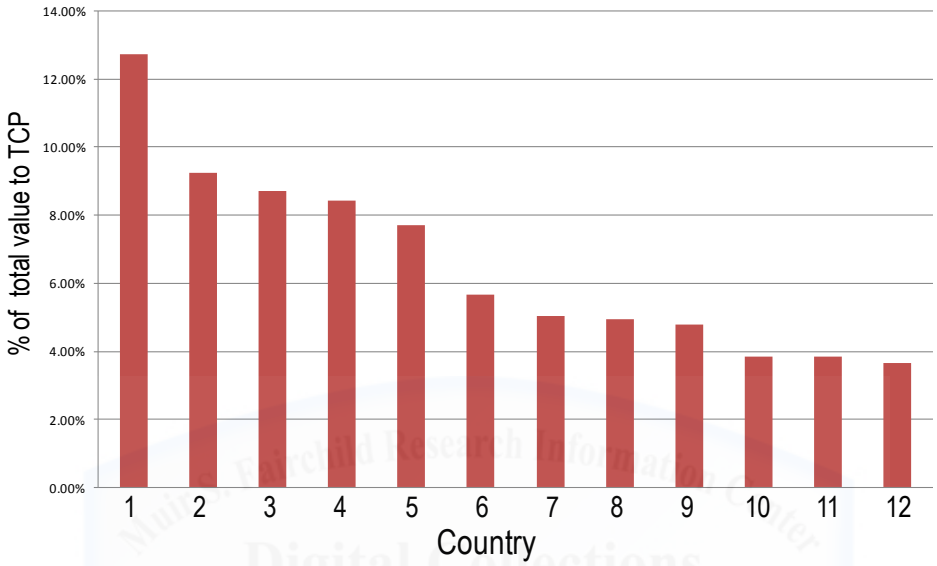

Figure 3: Prioritized Countries in USARPAC AOR

This graph was extremely insightful for the USARPAC command and staff, particularly when compared to the effort dedicated to each country in FY10, see Figure 4.

The FY10 Value bar represents the percent of value that each country contributed to the Theater Campaign Plan based on the Operations and Activities conducted in each country and their associated weights. Ideally, this should match the quantitative representation of the Commander's Guidance; everything above or below this is theoretically error. It was clear that USARPAC was overinvested in some countries and underinvested in others. It is important to note that the FY10 Value bar does not represent the amount or percent of resources dedicated to each country; it represents percentage of total value added to the TCP by SCP activities across the theater. The magnitude of this value is directly related to the weights of the Strategic

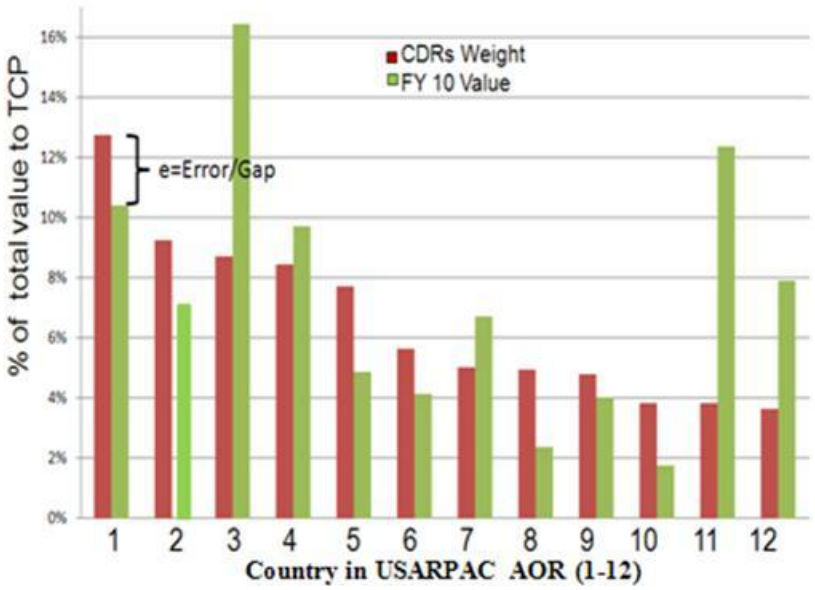

Figure 4: CDR's Guidance vs. FY 10 Value

Objectives and subordinate objectives. USARPAC determined, by calculating the Sum of Squares for Error between the FY10 Value and the Commanders Guidance bar, that they were not optimizing their limited resources within their Security Cooperation Program. There was approximately 45% error between Commander's Guidance and their operating value scores. Using this information in the planning process for SCP engagements for FY11 they were able to reduce that error by 40% in one year. Assigning a quantitative value (weight) to the countries that represented the commander's priorities was invaluable to the USARPAC staff. The explicit knowledge of the commander's priorities enabled the SCD to develop a 1-*n* list of SCP engagements based on its cost and value added to the campaign plan. SCP planners could now plan engagements with the higher priority countries and accept risk in the lower priorities; achieving the command's intended purpose.

Due to the success of implementing this method of prioritization and analysis, USARPAC applied this same methodology to two different domains; budgeting and manpower.

Concerning the budget, USARPC was required by the VCSA to develop a plan to absorb a 5% or a 15% budget cut. All funded programs were linked to the TCP Objectives, weights were applied, and the 219 programs were quickly rank ordered along with the cumulative program cost. This enabled the staff to focus their efforts on the programs that fell close or below the 5% or 15% cut lines. To use the graph in Figure 5, the analyst starts on the budget (right) axis, enters at the 5% or 15% budget cut line, extends that line to the left until it intersects with the TCP cumulative value line then drops to the horizontal axis. The programs to the left of this mark are of least value to the TCP. The stakeholder discussion should focus in this area for cuts rather than the entire 219 programs. This method provided the USARPAC staff a reliable measuring stick through the lens of the TCP that was consistent with the Commanding Generals' priorities, a prioritized list of programs based on TCP Value, and a process that was flexible and repeatable where portfolios could be created easily for different scenarios.

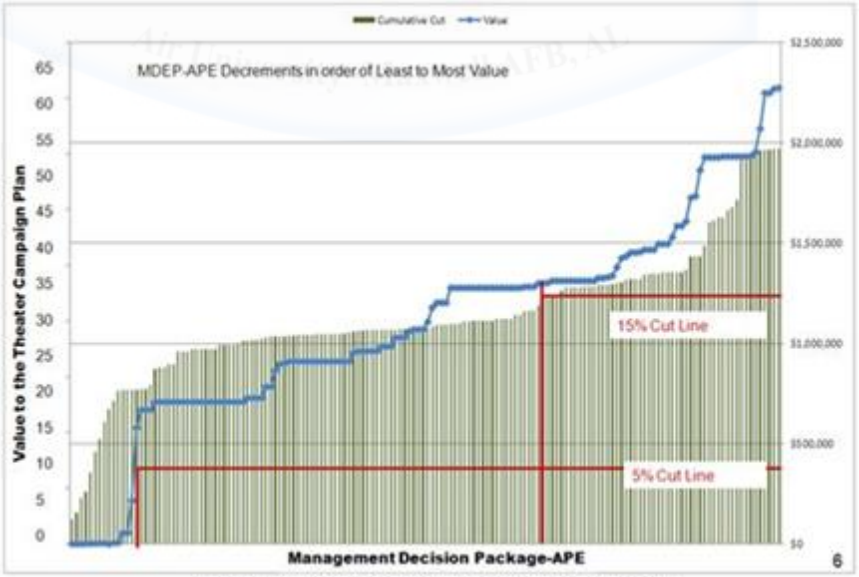

Figure 5: Value and Cumulative Decrement

The same approach was used when USARPAC was faced with potential manpower reductions. During this process over 700 functions were identified within the command and linked to the Strategic Objectives of the TCP. The staff was able to determine the relative contribution that each function provided to the TCP; functions were then placed in rank order based on the value of their contribution. Hence a Council of Colonels was able to quickly focus their attention on the functions that contributed the least; this essentially reduced the amount of functions considered for elimination by over 80%. Of course all of the functions were open for discussion, but this process provided an analytically sound place to start the discussions and would enable the team more easily and logically to justify their recommendations, see Figure 6.

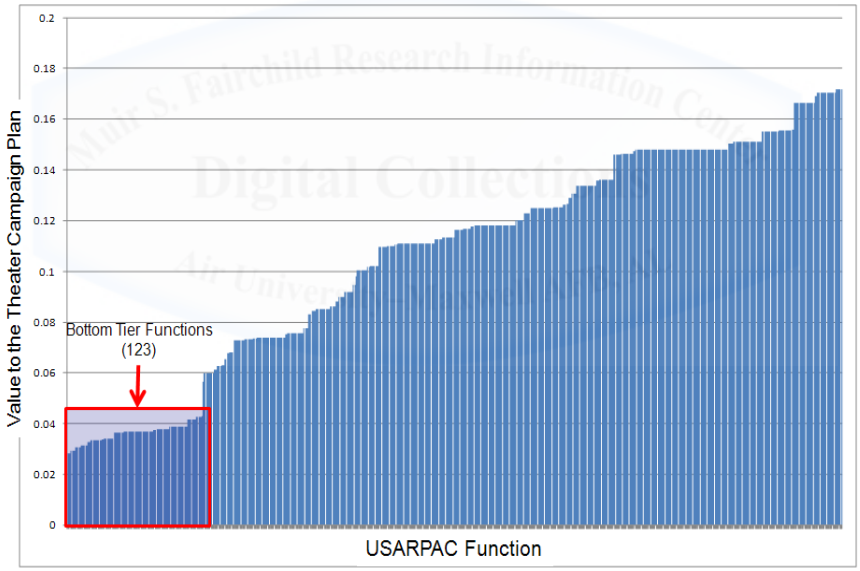

Figure 6: USARPAC Staff Function Vs Value

Conclusions and Recommendations

It is vitally important for DoD, during this period of continued security threats and declining resources, to effectively and efficiently allocate it's resources. To this end, the proper understanding of leadership's priorities, a critical element of intent, is essential. Leadership at

all levels must establish clear intent; ambiguity in the communication of priorities obfuscates leadership's intent. A staff's job at all levels is to articulate the leadership's intent and guidance through operation orders (OPORDS), OPLANS, staff studies, staff summaries, and reports. The approach advocated in this paper, the DOP Matrix method, enhances the leadership's and staff's ability to do this and increases the quality of decisions. Through accurate reflection of leadership's priorities it is clear and logical that resources will be allocated more thoughtfully and effectively.

Although the word "prioritization" is used in many of DoD's guiding documents, there is no standardization of terms nor is there a standard method through which objectives are prioritized; this potentially leads to confusion and misinterpretation of leadership's intent. Integrating the DOP Matrix method of prioritizing objectives into decision processes throughout DoD, as the standard method of establishing and communicating the leaderships priorities, will provide six distinct advantages over current practices. The DOP Matrix Method:

1. Standardizes the prioritization method and terms vertically through the Chain of Command and laterally across organizations, which leads to enhanced clarity in the communication of priorities.
2. Develops an explicit definition of importance and ensures consideration of the potential for improvement within each objective.
3. Provides a simple yet effective framework for consistent prioritization.[26]
4. Provides the organization a logical, traceable manner to present and justify their priority decisions.
5. Works well when staff or analysts have limited time to interact with stakeholder and decision makers to assess weights.[27]

6. It is expandable or collapsible based on size of the problem, time required to make the decision and resources available. If the staff, analysts, data, and leadership's time is available this process can be applied to a large multi-dimensional problem with far-reaching consequences. Conversely, this matrix can be developed on a scrap sheet of paper or on the back of a napkin in support of a highly condensed decision process.
7. Finally, it combines both the subjective and objective approaches to decision making, incorporating the judgment and experience of leadership with proven techniques to ensure consistency and handle the complexities of multi-dimensional decisions.

Although the scope of this paper is limited to the Department of Defense, future research should explore the feasibility of expanding this to our other federal agencies and departments within the government. Additionally the author is currently investigating the impact of further dividing the "potential for improvement" into factors that represent the organizations span of control. For instance, an objective may be affected by actions taken within the organizations span of control, conversely, that same objective may be affected by influences outside the span of control of the organization. A decision process that allocates resources should account for both situations and, hypothetically, should invest more in those objectives they can control. This paper is a cornerstone for future research upon which the DOP Method will be explored in more depth and applied to additional domains. Devoting the appropriate time to our decisions today will pay great dividends in the future.

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Notes

1. Churchill, Winston., unknown speech.

2. Press Briefing with Secretary Panetta As Delivered by Secretary of Defense Leon E. Panetta and Adm. Mike Mullen, Chairman of the Joint Chiefs of Staff, Pentagon Press Briefing Room Tuesday, September 20, 2011.

3. Conetta, J. and Knight, C., 2011. Pentagon cuts in context, No reason for "doomsday" hysteria, PDA Briefing Memo #50, 11 October 2011, 1. All dollars are rendered in real terms and apply to "Department of Defense" base budget. Using CBO inflation estimates, sequestration implies a total DoD base budget authority of approx $4.64 trillion in 2012 USD for period 2012-2021. OCO allocations are not included because they are not bound by Budget Control Act. Using figures from National Defense Estimates and subtracting OCO allocations, aggregate DoD base budget authority for period 2002-2011 was $4.9 trillion in 2012 USD. The difference between the two decades is $260 billion, which represents a reduction of 5.5%. The author used an estimate of 6% to hedge against uncertainty about 2012 budget, which is not bound by sequester and not agreed by Congress at the time of publication.

4. The term peanut butter or salami slice approach reflects the idea that you will apply the same tactics to all aspects of an organization. For instance, your organization might need to cut 10% of its workforce. Under these concepts you would reduce your workforce evenly among different departments. Managers would be just as likely to be laid off as regular employees, and any department, productive or not, would lose 10% of its workers. There are some inherent problems in this approach. The organization that simply reduces 10% of its workforce without considering that certain departments may need more workers because of greater productivity generally makes a mistake.

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15. Churchill, Winston., unknown speech.

16. Army CoS Memorandum, 23 March 2011.

17. Joint Publication 5.0, *Joint Operations Planning*, 11 August 2011, II-22.

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22. Ewing, P. and W. Tarantino G. Parnell. Use of decision analysis in the Army Base Realignment and Closure (BRAC) 2005 military value analysis, *Decision Analysis*, 2006, 3 (1): 38.

23. Ibid., 41.

24. Ibid., 42.

25. Parnell, G.S., Trainor, T., Using the Swing Weight Matrix to Weight Multiple Objectives. The International Council of Systems Engineering (INCOSE), 2009, 10.

26. Ibid., 15.

27. Ibid., 15.